



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/530,131

01/24/2006

Jeremy John Hawkes

41577/314660

1024

23370 7590 06/23/2009

JOHN S. PRATT, ESQ
KILPATRICK STOCKTON, LLP
1100 PEACHTREE STREET
SUITE 2800
ATLANTA, GA 30309

EXAMINER

COLEMAN, RYAN L

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

06/23/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/530,131	Applicant(s) HAWKES ET AL.	
	Examiner RYAN COLEMAN	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 9-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/4/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group 1, claims 1-8, in the reply filed on April 17, 2009 is acknowledged. The traversal is on the ground(s) that the reference WO 00/41794 to Coakley et al. (hereafter referred to as "Coakley"), according to applicant, does not teach the invention's special technical feature. Applicant states that Coakley does not teach movement of particles from a first fluid to a second fluid. Instead, applicant states that Coakley teaches movement of particles within a single fluid. This is not found persuasive because Coakley does teach the movement of particles from one fluid to another. As discussed in the restriction requirement, Coakley teaches using a standing sound wave to move particles from fluid located apart from the nodal plane of the standing wave to fluid located at the standing wave's nodal plane (Col. 2, 11-32; Figure). Applicant appears to be suggesting that the fluids cannot be considered to be different because the fluids are not chemically different. However, none of the claims specify that the fluids are chemically different, and the two fluid regions (the region of fluid located near the standing wave's nodal plane and the region of fluid located away from the standing wave) are considered to be composed of different fluids because, in Coakley's method, particles accumulate in the fluid region near the standing wave's nodal plane whereas particles leave the fluid region located away from the standing wave's nodal plane.

2. Applicant also argues that there would be no undue search burden on the examiner to examine both inventions. However, it is anticipated by the examiner that, considering the nature of the invention and the broad scope of the independent claims, art that is applicable to one of the inventions may not be applicable to the other invention, and that situation, in combination with the fact that the inventions are classified separately, would place an undue search burden on the examiner if both inventions were examined.

3. The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-8 rejected under 35 U.S.C. 102(b) as being anticipated by WO 98/50133 to Coakley et al. (hereafter referred to as “Coakley”).

6. With regard to claim 1, Coakley teaches an apparatus for separating particles entrained in a fluid from one fluid region to another (Col. 4, 5-33; Col. 5, 19-36; Figures 1 and 2). As taught by Coakley, the apparatus comprises a conduit, a passage for establishing laminar flow of fluids within the apparatus, and an ultrasonic generator for producing a standing acoustic wave with a pressure node within the conduit (Col. 4, 5-37; Figure 1).

7. With regard to claim 2, as shown in Coakley's Figure 2, the laminar flow through the conduit has little mixing between the fluid regions with accumulated particles (labeled "B" in Figure 2) and the fluid regions without accumulated particles (the fluid regions between the bands "B" in Figure 2; Col. 5, 5-12).

8. With regard to claims 3 and 4, in Coakley's apparatus, the laminar flow through the passages is established with an inlet (item 11 in Figure 1) and outlet (item 19 in Figure 1). As shown in Figure 1, the inlet and the outlet are in fluid communication with the conduit of the apparatus, and as shown in Figure 1, the inlet is orthogonal to the outlet (Figure 1; Col. 4, 5-37).

9. With regard to claim 5, as taught by Coakley, bands of particles accumulate near the pressure nodes of the standing wave, and since Coakley teaches that one of the bands is formed in the center of the conduit's longitudinal length (Figure 2), Coakley teaches having the center pressure node of the standing wave disposed in the center of the conduit (Col. 2, 19-27; Col. 4, 5-37; Col. 5, 2-12; Figure 2).

10. With regard to claims 6-8, Coakley teaches generating the standing acoustic wave by having a piezoelectric ultrasonic generator that is powered with alternating potential on one wall of the conduit and a brass reflector on the opposite wall of the conduit (Col. 4, 5-33).

Conclusion

Art Unit: 1792

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to RYAN COLEMAN whose telephone number is (571)270-7376. The examiner can normally be reached on Monday-Friday, 9-5.

12. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Kornakov can be reached on (571)272-1303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael Barr/
Supervisory Patent Examiner, Art
Unit 1792

/RLC/
Ryan L. Coleman
Patent Examiner, Art Unit 1792
June 20, 2009

Application/Control Number: 10/530,131
Art Unit: 1792

Page 6